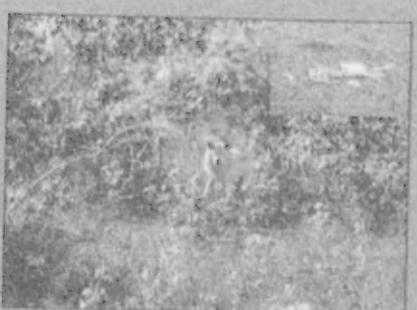
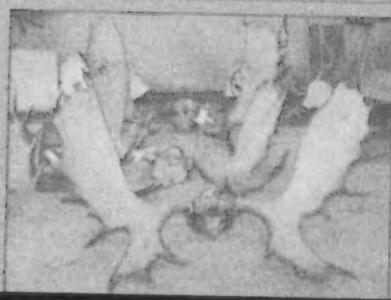
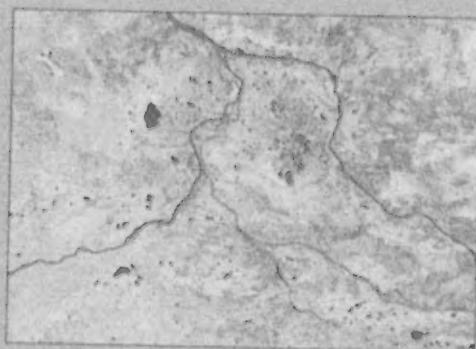


Regional Wildlife Workshop

October 2006



DEHCHO WILDLIFE WORKSHOP, 17-18 OCTOBER, 2006

CULTURAL CENTRE - FORT SIMPSON

2006 Wildlife Workshop Delegates

Ernest Timbre – Acho Dene Koe Band (Fort Liard)
Joe Bertrand – Acho Dene Koe Band (Fort Liard)
Ernest Hardisty – Jean Marie River First Nation
Douglas Norwegian – Jean Marie River First Nation
Francis Betsaka – Nahanni Butte Dene Band
Dolphus Jumbo – Sambaa K'e Dene Band (Trout Lake)
Victor Jumbo – Sambaa K'e Dene Band (Trout Lake)
Joe Lacorne – Deh Gah Gotie Dene Band (Fort Providence)
Darren Campbell – Deh Gah Gotie Dene Band (Fort Providence)
Fred Simba – Ka'a'gee Tu First Nation (Kakisa)
Albert Moses – Pehdzech Ki First Nation (Wrigley)
Leo Moses – Pehdzech Ki First Nation (Wrigley)
Jim Thomas – West Point First Nation
William Michel – West Point First Nation
Ernest Martel – Katlodeeche First Nation (Hay River Reserve)
Peter Sabourin – Katlodeeche First Nation (Hay River Reserve)
Robert Hardisty – Liidlii Kue First Nation (Fort Simpson)
Michael Cazon – Liidlii Kue First Nation (Fort Simpson)
Marie Lafferty – Fort Simpson Metis Local
Jonas Lafferty – Fort Simpson Métis Local

ENR Representatives

Nic Larter – Dehcho Regional Biologist, Fort Simpson
Danny Allaire – Dehcho Wildlife Technician, Fort Simpson
Deborah Johnson – South Slave Regional Biologist, Fort Smith
Paul Kraft – Dehcho Regional Superintendent, Fort Simpson
Jennifer Skelton – Protected Area Biologist, Yellowknife

CWS Participants

Lindsay Armer – Landbird Technician, Environment Canada
Credence Wood – Shorebird Technician, Environment Canada

Nahanni National Park Reserve Participant

Doug Tate – Conservation Biologist, Fort Simpson

University of Alberta Participant

Erin Bayne – Assistant Professor, Biology Department

Interpreter: Elizabeth Hardisty, Fort Simpson

Sound provided by Jim Hope of the Dene Cultural Institute, Hay River.

Lunches and coffee breaks catered by the Bompas Elementary School – Grade Six Class

Participants

Lee Thom – Dehcho First Nation

Herb Norwegian – Dehcho First Nation

Carl Lafferty – ENR

George Tsetso – ENR

Daniel Allaire – ENR

Steve Gooderham – ENR

Ken Lambert – ENR

Allan Bouvier – Liidlii Kue First Nation

Leo Norwegian – Liidlii Kue First Nation

Michael Cazon – Liidlii Kue First Nation

Fabian Hardisty – Liidlii Kue First Nation

Peter Corneillie – Liidlii Kue First Nation

Dieter Cazon – Liidlii Kue First Nation

Jim Antoine – Liidlii Kue First Nation

Ernest Tsetso – Liidlii Kue First Nation

Andy Norwegian – Liidlii Kue First Nation

Phoebe Allaire – Liidlii Kue First Nation

Walter McPherson – Liidlii Kue First Nation

Bob Norwegian – Liidlii Kue First Nation

David Horesay – Pehdzeh Ki First Nation

Archie Horesay – Pehdzeh Ki First Nation

Margaret Jumbo – Sambaa K'e First Nation

The Department of Environment and Natural Resources (ENR), Dehcho Region held a Regional Wildlife Workshop at the Cultural Centre in Fort Simpson on 17-18 of October, 2006. This was the third regional wildlife workshop, the first was held September 2002 and the second in October of 2004; it was decided during the first workshop that an October date would not conflict with the fall harvest and allow for an increased participation of harvesters. The key results of the 2004 workshop were the directions for wildlife research programs in the Dehcho and a list of 7 action items. The goals of the 2006 workshop were to:

- 1) provide an update of the wildlife research that ENR had initiated and conducted in the Dehcho since the 2004 workshop,
- 2) provide an assessment of how well ENR had addressed the 7 action items from the 2004 workshop,
- 3) provide a forum for other agencies and other ENR programs to present research findings,
- 4) provide an open forum for the discussion of regional wildlife issues, and
- 5) ensure a continued dialogue about research and monitoring programs between all Dehcho First Nations and ENR.

During Day 1, ENR made a presentation detailing how they had addressed each of 7 action items arising from the 2004 workshop. This was followed by presentations on the major research programs being conducted by ENR, the Canadian Wildlife Service (CWS), the Biological Department from the University of Alberta (UA) and Parks Canada (PC). The walls of the Cultural Centre were covered with posters showing results of wildlife research programs in the Dehcho that had been completed over the past 2 years or were ongoing. The posters became focal points during coffee and lunch breaks and during round

table discussions. Day 2 started with an initial ENR presentation on the bison program followed by open round table discussions on a variety of wildlife topics and issues and feedback from delegates and audience members on any and all wildlife-related topics. The workshop was extremely well attended, and ENR would like to take this opportunity to thank all of those First Nations whom sent delegates to the workshop. What follows is the final workshop agenda, the key discussion items and comments that came forth during the workshop, and some action items for ENR to pursue. The discussion items are not listed in any particular order.

The grade 6 class from Bompas Elementary preparing to serve lunch (to the left) and the sound booth and translator (to the right).



Day 1 – 17 October, 2006

- 0910 Opening Prayer-Jim Thomas
0915 Introductions
0920 Welcoming Comments-Paul Kraft, Regional Superintendent, ENR
0925 Review of 2004 workshop action items-Nic Larter, ENR
1005 Coffee Break
1025 Boreal Caribou South Slave and SAR-Deborah Johnson, ENR
1125 Bird Research and Monitoring in the Dehcho Liard-Lindsay Armer, CWS
1150 Lunch catered by Bompas Grade Six
1330 Birds, Small Mammals and Linear Features-Erin Bayne, UA
1410 Dehcho Caribou Program-Nic Larter, ENR
1445 Dehcho Moose Program-Nic Larter, ENR
1515 Coffee Break
1530 Dehcho Youth Ecology Camp-Danny Allaire, ENR
1545 Wildlife Research Nahanni National Park Reserve-Doug Tate, PC
1610 Shorebird Surveys along the Mackenzie River and Proposed MGP Route -
Credence Wood, CWS
1625 Closing comments; Closing Prayer-Dolphus Jumbo

Day 2 – 18 October, 2006

- 0915 Opening Prayer-Ernest Hardisty
- 0920 Dehcho Bison Program-Nic Larter, ENR
- 1010 Coffee Break
- 1030 Round table discussions on working partnerships for boreal caribou in the
Dehcho, boreal caribou capture and collaring operations
- 1200 Lunch catered by Bompas Grade Six
- 1330 Round table discussions of moose research program
- 1400 Round table discussions of youth ecology camps
- 1430 Coffee Break
- 1445 Round table discussion on potential action items/current and future
workshop formats
- 1515 Workshop closing comments; Closing Prayer-Peter Sabourin

Day 1

The presentation of how ENR had addressed the 7 action items resulting from the October 2004 workshop stimulated discussion on a few topics.

Furbearers

There were questions about the lack of research on water-related animals like beaver, muskrat and mink for example. This is also a wild meat food source for people living in the north and we need to ensure that these animals are healthy. Muskrats at Buffalo Lake used to be plentiful twenty years ago, each trapper got 400-450 a trapping season now they don't get many. Mink have also disappeared from the area since. It was suggested that harvesters could learn how to monitor their areas with the help of ENR. It was indicated that ENR was open to these suggestions and that some beaver samples had been collected to look at their health.

Bison

Beyond completing a bison management plan, it was reiterated that there was a need for action on the more immediate problems that Fort Providence had been having with bison in the community over the past few months.

Youth Summer Ecology Camps

The success of these camps and the need to continue providing this opportunity for youth was acknowledged by all delegates. Increasing the number of these camps and having similar camps during winter was discussed.

The topic of offering an "advanced" summer youth ecology camp for students who had already participated in at least one camp was also discussed.

Following the action items discussion, presentations were made by ENR, UA, CWS, and PC on research being conducted in the Dehcho. What follows are the topics of discussion related to the wildlife research described.

Boreal Caribou

There was question as to whether the caribou knowledge mapped by local harvesters from the Hay River Reserve had been used with the Cameron Hill's study. This included calving areas and migrations. It was indicated that caribou knowledge had been provided by elders and had been used for the study.

There was general consensus that boreal caribou studies were providing useful information, especially on movements, and to keep up with the work. Some delegates wanted to see the work expanded to include areas like the Horn Plateau to find out if there were calving areas and seasonal migrations of caribou there. Some delegates commented that until recently caribou were always seen crossing the Jean Marie River access road and wondered why there was a change.

The issue of caribou crossing highways and the lack of highway signs was raised. There has been lots of signage for bison on highways but caribou (and other wildlife) have been neglected. There are certainly areas where caribou cross the highways, particularly on the Enterprise to Kakisa section and just west of the Fort Providence Junction on the Mackenzie Highway. Signs indicating caribou may be crossing should be put up on the highways.

Delegates were concerned that climate change may be contributing to the loss of caribou habitat and changes in their movement patterns. It was noted that the genetic studies indicate that there has been historic gene flow in both a south-

north direction and a west-east direction within the Dehcho. There was concern that climate change was bringing up more deer and elk into the region and that they would bring disease with them. ENR was not aware of any diseases that elk and deer could introduce to caribou. Also now there are more unstable winter ice conditions, the ground takes longer to freeze and there is more overflow on rivers later in the year. There was concern that this would lead to more caribou drowning and that some of this might be related to water discharges from dams.

There was a concern raised, that releasing maps showing where collared caribou were was making collared caribou more vulnerable to hunters, and that these data should be confidential. It was noted that there had been discussions on this topic with all First Nations partners in the boreal caribou work conducted out of Fort Simpson prior to any maps being provided. There was agreement that mapped locations of caribou should be provided but with a 2-week time lag. So for example, a map provided on the 15th of October would show where the caribou had been moving from 1-30 September. There had been an agreement that 1 map would be provided to each partner, with no map posted at the ENR office. We all hoped that this delay would not make collared caribou vulnerable to hunters. We could look into having a further delay if there was still a concern.

There was a discussion about the types of collars being used and whether there were other ways of attaching transmitters and whether they would stay on for the animal's lifetime. It was indicated that the units currently being used were the smallest, lightest, and most effective units we could use to collect the information we had been asked to collect. Collars deployed since 2005 have had release mechanisms so they do not stay on the animal for all its life.

There was a discussion about ensuring that when animals had to be handled the handling time was minimized and the people handling them wore protective gear so they would not infect the animal.

Moose

There were questions asking if research was being done on the diet of moose in different seasons to see what they were eating. It was indicated that a number of studies elsewhere have looked at seasonal changes in moose diet, but that we had not done one specific to the Dehcho. ENR has been collecting moose feces as part of the biological sampling program. Fecal samples are currently being used for disease and parasite study. It was reiterated that the moose biological sampling program has been well supported by all First Nations (37 sets of samples have been received to date), but that we would like to continue to collect as many more samples over the next 6 weeks as possible, to try and reach 50 sets of samples before we have to submit the organ samples to the lab for a complete elemental analysis.

There was a discussion about the current status of the moose population in the Dehcho Region, how many are there, and would we continue doing aerial moose surveys in November. There was a discussion about why we used grids and not straight lines to survey for moose. It was indicated that the monitoring surveys would be continued for the next 2 winters and there was general consensus that moose were healthy and harvesters were having successful hunts.

Delegates wanted assurance that the moose harvest by the Big Game Outfitters in the Mackenzie Mountains was being monitored. It was indicated that the Dehcho ENR office receives all outfitter harvest forms and that a detailed harvest report is

compiled annually. There was a copy of the 2005 harvest report available for delegates as part of the poster display. Outfitters have provided biological samples for the moose study.

Birds

Delegates from Fort Liard said that they were seeing new species of birds in their area in the summer; like a blue jay and a yellow-headed blackbird. Other delegates indicated seeing different birds and not as many migratory birds in recent years and wondered if climate change may be affecting bird migration and nesting. Could erratic weather be altering seasonal migration timing and success rate in nests? The CWS participants indicated that any and all observations like the ones being noted here would be greatly appreciated. There is a bird observation checklist that they sponsor and the survey forms are available at the local ENR offices. Doug Tate at the local Parks Canada office also collects and compiles unusual bird observations from the area. It was indicated that biologists have also noticed a decline in migratory birds. The reasons why are yet unknown, but current research is being conducted nationwide to try and answer the question.

There were questions about how many different types of waterfowl were found in the region and in the north and whether ENR would be getting involved in waterfowl studies. It was indicated that CWS was conducting the waterfowl research in the region. Trout Lake delegates indicated that they would like to see more waterfowl work done in the Trout Lake area.

There was a question about birds and West Nile Virus. It was indicated that as part of a nationwide monitoring program, dead corvid (ravens and their relatives)

birds were collected and if there was no obvious cause of death they were forwarded to the lab in Saskatoon for testing for West Nile Virus. None of the birds submitted had tested positive. ENR has also been trapping mosquitos on a weekly basis during summer to get baseline data on what species are found around Fort Simpson and when they are present.

Day 2

Bison

Questions arose regarding the bison ecologist position, how soon it would be filled, the qualifications needed for the position and whether it would be based out of Fort Smith given the current bison issues being faced by residents of Fort Providence. It was indicated that a competent biologist would be required and that the interview process was being completed.

There was a discussion about potential strategies to deal with bison that frequent communities regularly and the need for communities with bison problems to discuss what works and what doesn't work. Keeping sandy places fenced off and reducing food available to bison in the community should make areas less attractive to bison. The use of loud devices like bear bangers, screamers and vehicle sirens has not been particularly effective. Some individuals are regular visitors to the community while others pass through.

There was mention that the current number of tags issued for the Mackenzie population could be increased with more tags being made available to harvesters since the bison population is increasing its range and there is a lot of wild meat that not being utilized. There was mention of the lack of tags being used for the

Nahanni population. It was indicated that increasing harvest on a species at risk is not a simple matter.

There was also concern from communities that do not have bison in their area. Trout Lake delegates were worried that the Nahanni bison population may increase its range to the east of the Liard Valley. It was indicated that if the Nahanni bison population range increased it would remain along the Liard River Valley. Rivers coming from the east do not have active channels or an abundance of oxbow lakes.

Delegates wanted to know where the Nahanni bison moved to and suggested that getting some collars on them would be a good thing and could provide this information. It was indicated that ENR was working with biologists from the Yukon Territory towards a cooperative collaring program and hoped to be able to collar some Nahanni bison in summer 2007.

Hunters have noticed areas which used to be good moose habitat are now being utilized by bison and wondered if bison were disturbing moose so they would go elsewhere. It was indicated that this is a possibility but there has been no research on interactions between bison and moose yet. There could be new areas of better moose habitat which attracted moose away. It was mentioned that if wolves got better at hunting bison then wolves might become more plentiful which would not be good for moose.

Boreal Caribou Persistence and the Dehcho Landscape

“What does the landscape in the Dehcho need to look like for the persistence of boreal caribou?” was a question posed for a further discussion on boreal caribou.

It was noted that caribou utilize vast expanses of wilderness throughout the year and that the areas they use may change from year to year depending on weather conditions, wild fires and industrial activity. Some harvesters indicated that caribou have not been seen near Paradise Creek since there was a fire in the area in 2004. ENR noted that collared caribou have used recent burns during summer and fall. Not all fires have the same impact on the landscape. In summer, recently burned areas can provide high quality food, relief from insects, ease of travel and ease of spotting predators. There was a comment that caribou were plentiful along the Mackenzie Valley before the construction of the IPL pipeline. After construction of the line caribou were not seen for a few years, now it isn't the same as it used to be.

The issue of access into important caribou habitat was raised. The problem is created by oil and gas exploration and forestry activities. Information gathered from local expertise and caribou studies needs to be filtered through and standards need to be set which include limiting the size of seismic lines and restricting access to areas during certain times of the year. Conditions should be based upon the individual needs of each species. Again it was noted by delegates that the information being collected by the various boreal caribou studies in the Dehcho was important.

It was indicated that there was a wealth of caribou knowledge and expertise sitting right in the room. There was also knowledge from aboriginal peoples and biologists in northern Alberta, Saskatchewan, and British Columbia, where the landscape has changed dramatically. So how do we bring all of this knowledge together?

It was suggested that some kind of group be formed to look at boreal caribou issues only, not all wildlife issues. There could be separate groups for bison and moose if need be. There was a suggestion that, on an interim basis, hunters could voice their concerns to the local Hunters and Trappers Association or Resource Management Board. It was noted that only Fort Providence had established such associations/boards and that the topic of local resource management boards had been discussed in the previous regional wildlife workshop.

There was the suggestion that the issue of forming a boreal caribou "working group" should be brought up at the upcoming leadership meeting to be held in Fort Providence in November. There was consensus amongst delegates that the leadership meeting was the best place to have this issued addressed.

Some delegates asked if there were alternative ways for tracking caribou other than using collars, something smaller maybe that was not so intrusive to the animal. It was indicated that the current collars being used were the smallest ones capable of providing the location information for a minimum of 2 years. Ear tags were another potential attachment however they were more prone to tearing out of the ear, and becoming more of an annoyance to the animal. Also it is unlikely that, given the size and weight limitations of ear tags, that they would have enough power to provide the required information or the range needed to track them from the air without flying very low to the ground. Ear tags are more prone to being eaten and badly damaged by predators so finding mortalities and reusing the technology is compromised.

Moose

There was a comment that the biological samples ENR was requesting includes delicacies (like the kidney) that are cherished by harvesters, which may limit the amount of samples ENR may receive. ENR indicated that they were well aware of that fact and that it had been discussed at length during the previous workshop and at community meetings. The figure of \$50 had been determined collectively as an appropriate reimbursement to harvesters for providing a complete set of samples including the kidney. It was also indicated that the current study was going to compare the level of elements in both kidney and liver samples, so that in future ENR may need only liver samples for monitoring the level of elements.

Delegates indicated that moose undergo changes throughout the year. During the rut the chemistry of the kidney and liver may change and they asked if there was a certain time of year ENR want samples? ENR indicated that they were trying to get as many samples from as many times of the year as possible in order address these changes. Harvesters expressed interest in obtaining the results of the elemental analysis. ENR indicated that once the analysis was completed results would be forwarded to First Nations.

When the Mackenzie Highway was first opened harvesters noticed lots of moose along the road, now moose observations along the corridor are less frequent. Was this an indication that moose had learned to stay away from the roads or was this because there are fewer moose? The new road corridor provided increased access to harvesters and road traffic would be a new disturbance to moose, so probably over time there are fewer moose staying in and around the newly accessible road corridor.

It was suggested by one harvester that March would be a good time to survey for moose because they are quite visible and mobile during this time. It was indicated that this time of year was probably better for estimating the number of moose but because moose do not have antlers in March it is very difficult to accurately classify moose as males or females. Because we need accurate information on the number of calves and female moose we conduct surveys in November.

Summer Youth Ecology Camp

All delegates thought that the summer youth ecology camp was very beneficial and good exposure for the youth. There was a continued expression of interest in having the camp located in different areas throughout the Dehcho Region. Being able to utilize resource people and learn from elders from different communities is a good thing.

There should be another camp held during the winter and trapping should be the main focus of the camp. The traditional lifestyle has been slowly disappearing from the northern landscape and youth should be exposed to it. Delegates indicated that in some communities they do similar camps with the schools and they vary in the length of time on the land.

After a successful winter camp it was suggested that camps should change to other seasons to teach the youth about different skills that are needed out on the land. It was indicated that for larger region-wide camps there was often difficulty in finding a time that all could participate and that this was even more difficult during the school year with different times for school breaks. Camps associated with local schools are one way to get youth out on the land. It was indicated that

funding had been secured for a summer youth ecology camp in 2007 and 2008 and that DFN had secured funding for a winter camp this year.

Action Items

1. ENR needs to ensure that the final report of the workshop is distributed to all First Nations in a timely basis.
2. ENR needs to ensure that these workshops become a biannual event, and that participation by elders and youth of the region is actively supported and encouraged. The current timing of the workshop is good.
3. ENR needs to ensure that a bison management plan is developed for the Nahanni Bison population.
4. ENR needs to initiate discussions with trappers in the Dehcho communities to stimulate cooperation in designing and conducting basic research and monitoring programs.
5. ENR needs to continue seeking proposals for hosting the summer youth ecology camp so that the camp curricula can be varied and can be held in different locations in the Dehcho.
6. ENR needs to secure funding for conducting an additional youth ecology camp during a different season of the year, preferably starting with a winter camp when students could be taught trapping.

7. ENR needs to actively pursue a collaring program for the Nahanni Bison population to provide baseline information on movements and the range of their distribution.
8. ENR needs to pursue the idea of a working group for boreal caribou in the Dehcho by having it put forward as a topic for discussion at the November, 2006 Dehcho First Nations leadership meeting in Fort Providence.
9. ENR needs to ensure that the 5 GPS collars and all available satellite collars are deployed on boreal caribou throughout the region in January 2007.
10. ENR needs to ensure that once the results of the elemental analyses from moose organs are received, that they are analyzed and a plain language report of the results is circulated as soon as possible.

Dehcho Regional Wildlife Workshop
Fort Simpson, NT
17-18 October, 2006

Co-Sponsored by DFN and ENR

In October, 2004, The Department of Resources, Wildlife & Economic Development (RWED) and Dehcho First Nations (DFN) jointly hosted a second Dehcho Regional Wildlife Workshop in Fort Simpson.

The main objectives of the workshop were to: review the progress made on action items from the September 2002 workshop, provide an update of the various regional wildlife research programs (RWED and other agencies), and provide an open forum to discuss regional wildlife programs and issues to ensure open dialogue between RWED and Dehcho First Nations.

At the end of the workshop 7 follow-up activities were recommended by the delegates in attendance.

What follows is a description of the activity and the action by ENR (formerly RWED) on each item.

Item #1

Ensure that the final report of the workshop is distributed to all First Nations in a timely basis.

Action:
CD transcripts of the workshop were forwarded to all First Nations on 25 October; hard copies of the final report were forwarded to all First Nations on 9 December 2004.



Item #2

Ensure that these workshops become a biannual event, and that participation by elders and youth of the region is actively supported and encouraged.

Action: Secured funding to conduct 3rd Biannual Dehcho Regional Wildlife Workshop and to cover the costs for 2 participants from each First Nation. Encouraged each First Nation to send 2 participants to the Workshop and to include youth, elders, harvesters and council members as participants.

Item #3

Ensure that a bison management plan is developed for the Nahanni Bison Herd.



Action: ENR held a meeting in July 2005 to specifically discuss bison issues including the development of a bison management plan for the Nahanni. Unfortunately due to staff shortages (no bison ecologist), the development of a formal Nahanni bison management plan has been delayed. ENR Fort Simpson has been monitoring the population and is publishing a comprehensive 5-year report from which a formal management plan can be based.

Item #4

Initiate discussions with trappers in the Dehcho communities to stimulate cooperation in conducting basic research and monitoring programs.

Action: ENR continues to provide trapper training programs and to collect wolverine carcasses. However, there has been little time spent with trappers in Dehcho communities to design local monitoring and basic research programs. This was a topic of active interest at the last workshop which ENR needs to better address in the future.



Item #5

Discuss changes and modifications to the current youth ecology camp location, timing, and format with local communities and DFN and investigate other available options.

Action: DFN ENR solicited proposals for hosting and running summer ecology camps in 2005 and 2006. The goal was that different aboriginal organizations would host the summer ecology camps in different locations of the Dehcho.

In 2005 the camp was held at the mouth of the Trout River, near Jean Marie River. In 2006 the camp was held at Sandy Creek near the Hay River Reserve. Camps continue to be well attended and a great experience for the youth that participate.

Item #6

ENR needs to continue to promote and support community wildlife monitoring programs.

Action: ENR introduced a moose sampling program in January 2005 to monitor animal condition and to collect baseline data on the levels of various elemental contaminants. Participants received \$50 for each set of samples submitted to the program. Most communities have been active participants in the program.

Item #7

ENR needs to support any self-management programs related to wildlife harvest that may be initiated by local First Nations

Action: Dehcho ENR monitors the annual non-resident harvest in the Mackenzie Mountains and publishes a detailed annual report of the harvest. ENR-HQ is responsible for monitoring resident harvest based upon questionnaire returns.

The topic of improved monitoring of community harvest by local First Nations was discussed at length at the last workshop. Other regions have wildlife harvest studies which document the numbers and types of country foods harvested by community residents. ENR would be supportive of similar studies in the Dehcho initiated by First Nations.

Programs/Projects Dehcho ENR Undertook/Participated in Since 2002

Problem Bear Disease/Parasites Monitoring
Diseased/Parasitized/Injured Wildlife Sampling
Wolf Carcass/Stomach Collection
Small Mammal Trapping and Hare Turd Counts
Beaver Contaminants
Tourist and Staff Wildlife Observation
Edelzihne and area Wildlife Survey
Boreal Caribou Survey/Satellite Collar Deployment
Boreal Caribou Occurrence Model Refinement
Boreal Caribou Harvest Sampling
Nahanni Bison Scoulage Classification Survey
Nahanni Bison Population Survey
Nahanni Bison Disease Monitoring
Naith Summer Ecology Camp
Moose Population Survey – Mackenzie River Valley
Moose Population Survey – Liard River Valley
Moose Annual Population Monitoring Surveys
Moose Health, Condition, and Contaminant Levels
Dall's Sheep Survey Nahanni/Liard Ranges
Dall's Sheep Horn Growth
Non-Resident Hunter Harvest Monitoring/Sampling
Mountain Goat Surveys Flat River
Monitoring EnCana Gravity Survey
Participated in Wolverine Carcass Collection
Participated in Barren-ground caribou survey
Participated in Dene Nation Contaminant Study
Participated in BC Government Porcupine Survey
Participated in University of Alberta Mink Study

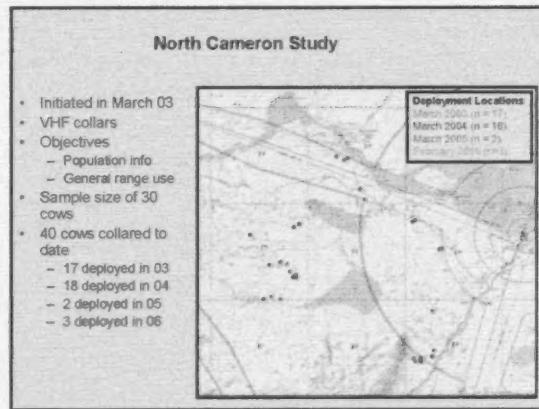
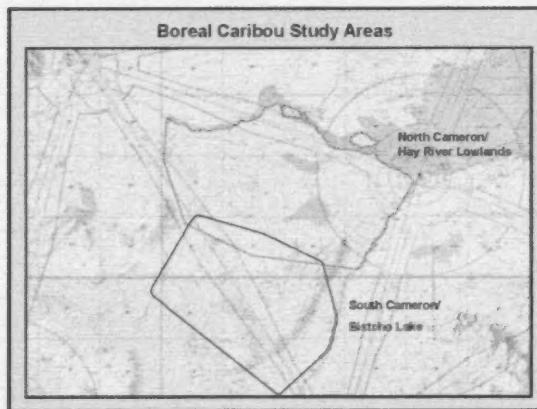
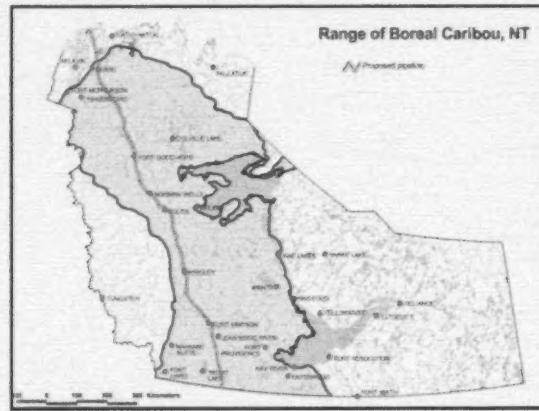
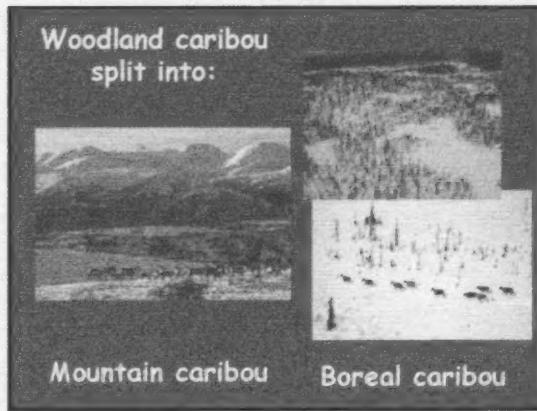
Boreal Caribou in the Dehcho-East

South Slave Project Summary

Species at Risk

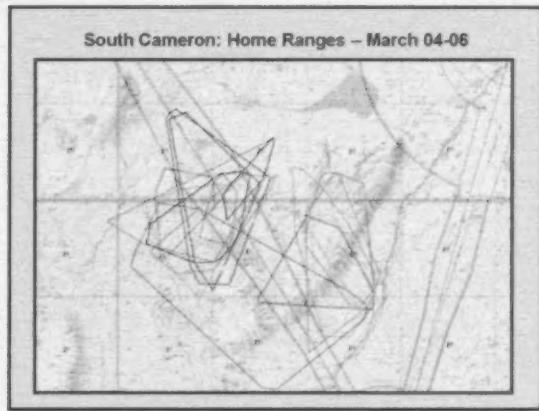
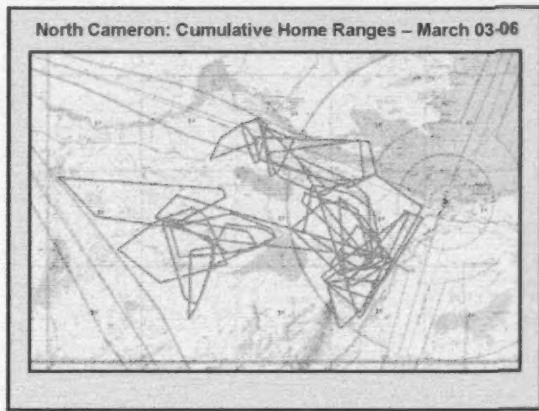
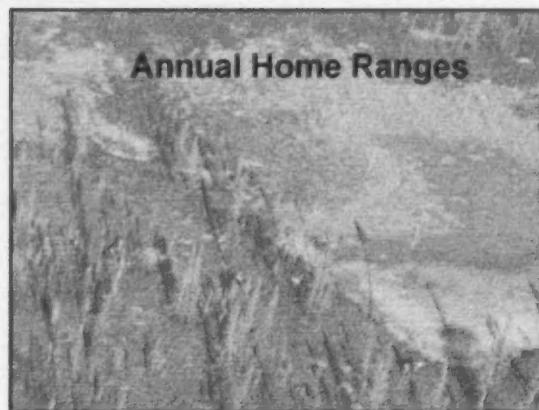
South Slave Project Summary

- 2 Study Areas
 - Capture Locations
 - Progression to separate study areas
- Home Range Size
- Seasonal Movement Patterns
- Population Information



South Cameron/Bistcho Lake Study

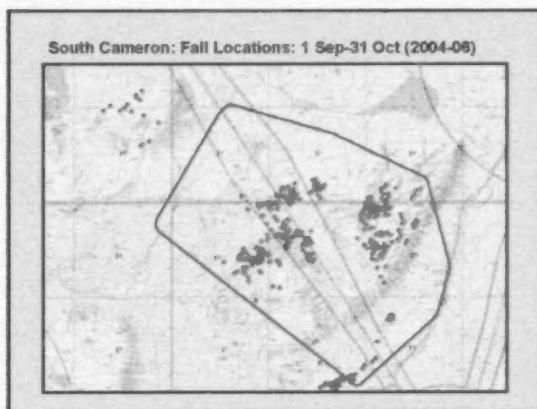
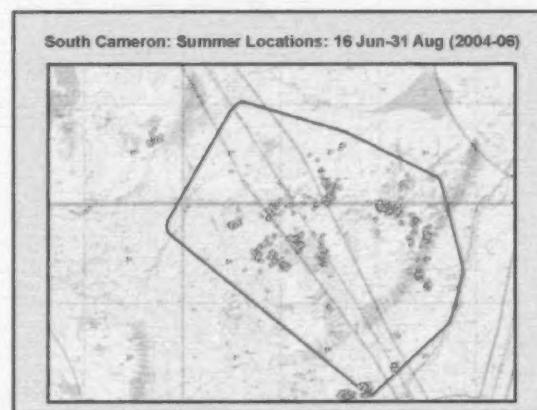
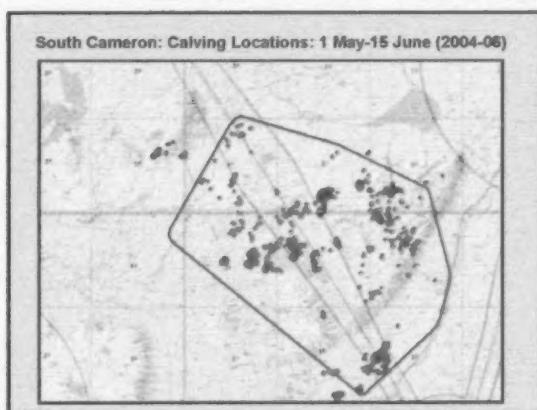
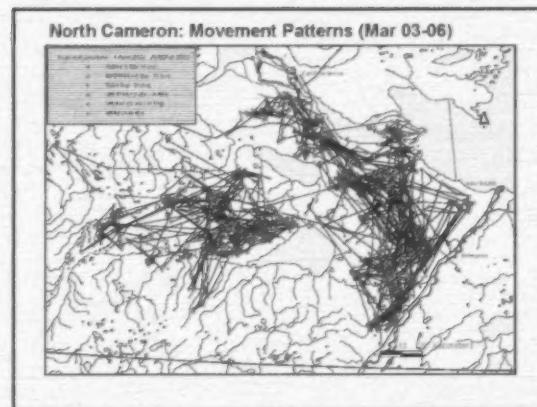
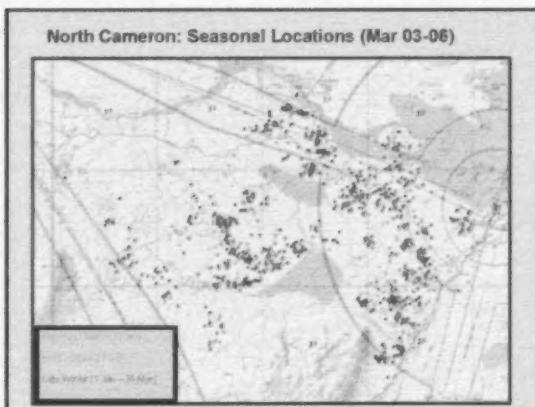
- Initiated in Mar 04 & Dec 04
- Mar 06: 12 VHF + 8 satellite
+ 10 GPS collars
- Objectives
 - Demographics
 - Seasonal use
 - Habitat selection
 - Avoidance
- Sample size of 30 cows
- 33 cows collared to date
 - 3 VHF in Mar 04
 - 4 VHF in Dec 04
 - 6 VHF + 8 SAT in Mar 05
 - 2 VHF + 10 GPS in Mar 06



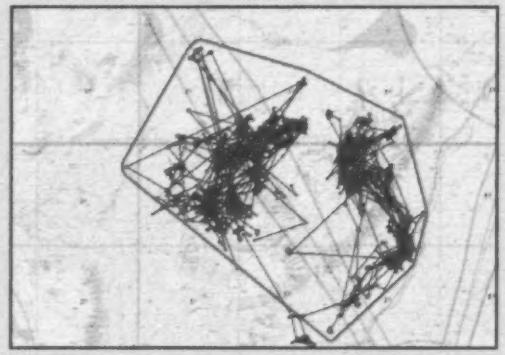
Home Range Summary (100 MCP)

	North Cameron	South Cameron
2003-04 (n=13)	619	885
2004-05 (n=30)	746	2198
2005-06 (n=25)	574	875
2004-05 (n=28)	75	1950
Mean (km ²)	619	885
Median (km ²)	746	2198
Minimum	75	161
Maximum	1235	3099

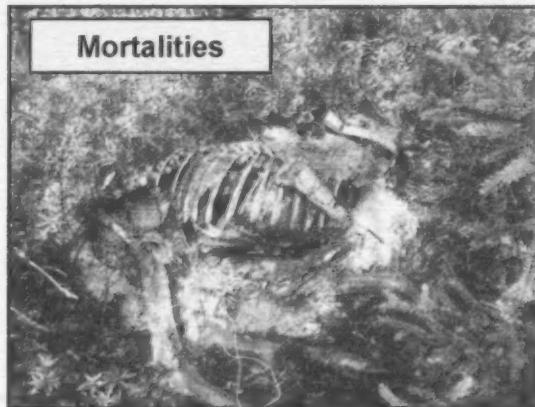




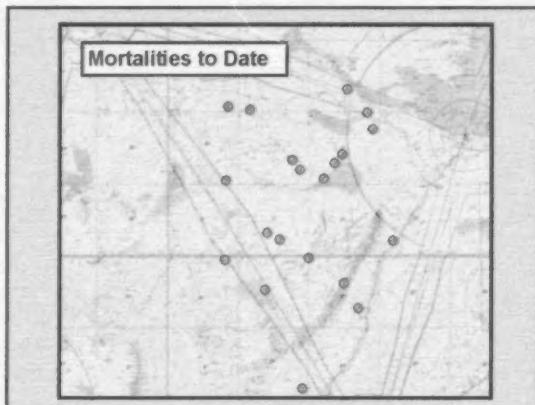
South Cameron: Movement Patterns - March 2004-06

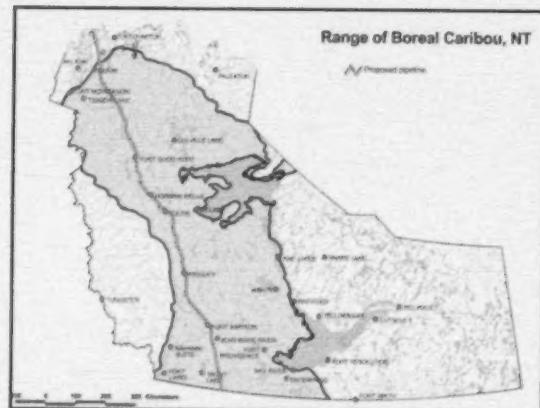
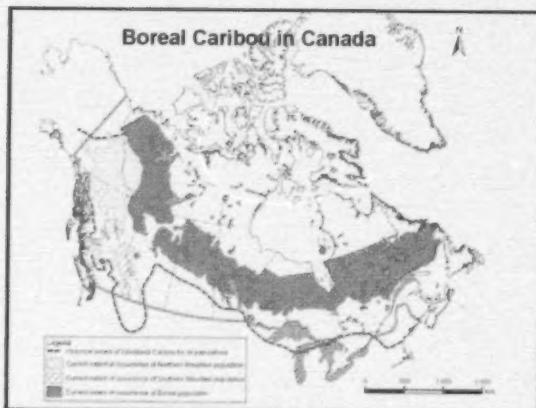
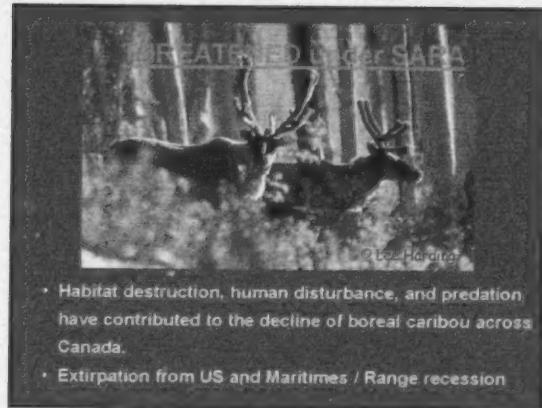
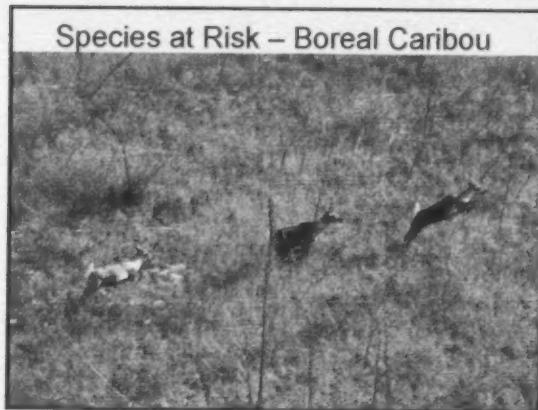
**Population Information**

	North Cameron		South Cameron		
	2003-04	2004-05	2005-06	2005-06	2006-06
Calf Production	87% (n=15)	95% (n=32)	93% (n=29)	90% (n=20)	89% (n=25)
Calves/ Milk Cows (Additions to Adult pop)	17 (11-14)	22 (16-29)	18 (13-24)	12 (9-17)	12 (collared cows in Sept)
Cow Survival	76% (56-97%)	88% (77-99%)	30% (79-100%)	90% (76-100%)	83% (70-97%)
Rate of Increase	0.84	0.99	0.99	0.96	

Mortalities

	North Cameron				South Cameron	
	2003-04	2004-05	2005-06	2006-07	2005-06	2006-06
Mortalities	4 / 17	4 / 31	3 / 30	3 / 28	2 / 20	5 / 60
	4 Mortalities in May 4 Mortalities in July-August 1 Mortality each in Nov, Jan and Feb 9 Due to Predation 1 Unknown cause 1 Human harvest		3 Mortalities in May 1 Mortality in June 2 Mortalities in July 1 Mortality in August All due to predation			
Collar Failures	2 in January 2006				1 in August 06	

Mortalities to Date



Recovery Planning

- National recovery strategy for boreal caribou
 - Umbrella document
- Jurisdictional recovery strategies
 - NT, BC, AB, SK, MB, ONT, QUE, NFL
 - Parks Canada
- NT Recovery Strategy = Conservation Action Plan

Action Plan for the Conservation of Boreal Caribou in the NT

- WHY???
 - One of the most sensitive wildlife species to human disturbance
- HOW??
 - Sharing information on boreal caribou.
 - Asking for your input.
 - Collectively develop an action plan for the conservation of boreal caribou.

• Please let us know your opinions!
• Brochures are available!

What are you thoughts on..?



**Boreal woodland caribou
conservation in the NWT**

- Have the areas where boreal caribou are changed over time?
- Are there areas where boreal caribou no longer exist, or where there are only few caribou left ?

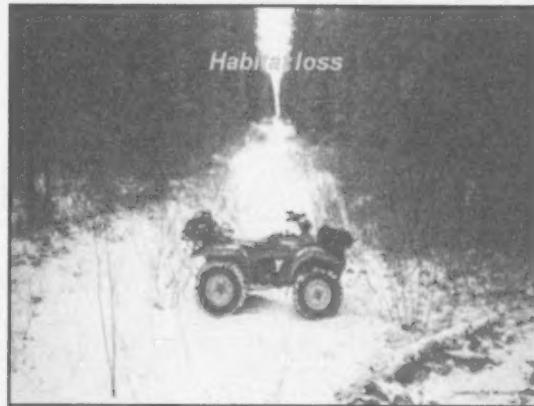
**Distribution
Population
Status in
Dehcho**

- Has the number of boreal caribou changed?
- Does the population go up and down naturally?

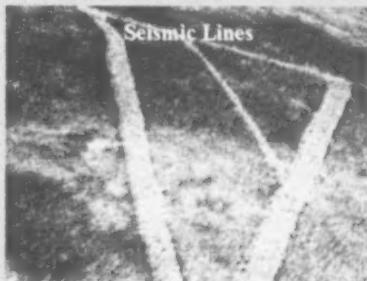
What are the Possible Risks to Boreal Caribou in the NWT?

- Habitat loss?
- Wildfires?
- Predators?
- Prey increases (deer, moose, beaver)?
- Harvesting?
- Disease and parasites?
- Vehicle collisions?
- Others?

Habitat loss

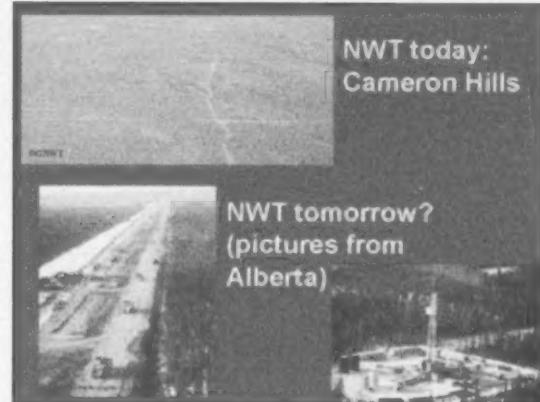


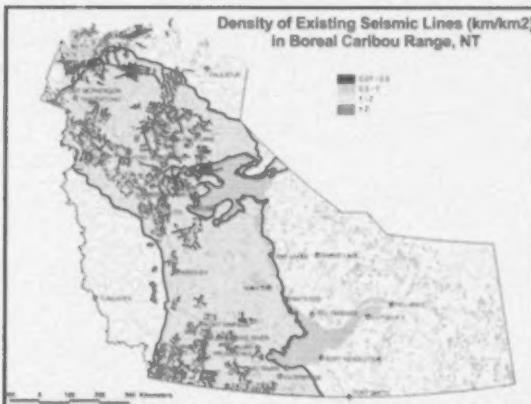
Effects of Linear Features



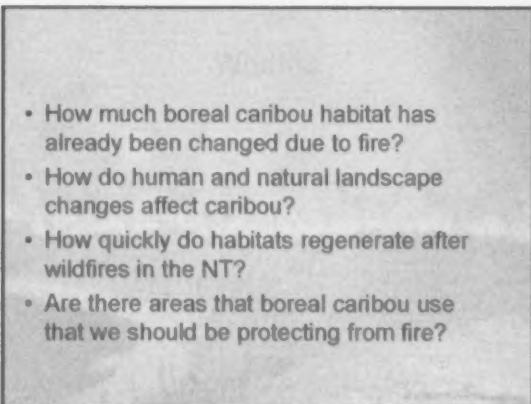
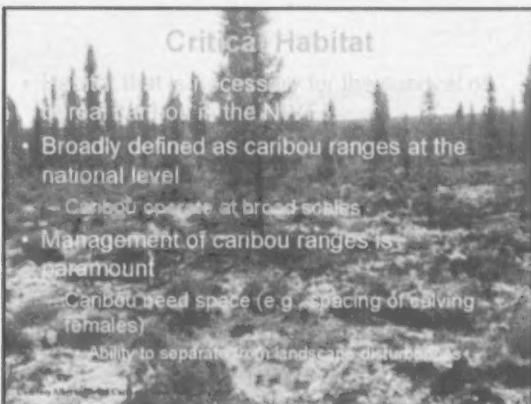
**NWT today:
Cameron Hills**

**NWT tomorrow?
(pictures from
Alberta)**





- Amount & type of habitat(s) necessary for survival of boreal caribou?
- What areas are especially important to boreal caribou?
- What kind of protection does the habitat need?
- What kind of activities disturb caribou?
- How can we balance industry with conservation of habitat for boreal caribou?



Predator and Prey Increases

- Have you seen more beaver, deer, bison or barren-ground caribou in areas where there are boreal caribou?
- Have you seen any new predator or prey species in the forest? Increases in their numbers or distribution?
- Are there more wolves or bears in areas where there are boreal caribou than there used to be?
 - Decreased hunting/trapping effort?
 - More prey?



- Should harvest information from all hunters get collected? If so, how should that collection be done and who should do it?
- Have there been changes in the number, location, or condition of boreal caribou being hunted?
- Have there been any changes in how difficult it is to hunt boreal caribou?



Other Risks???

- **Vehicle collisions**
- Are there any highway sections that boreal caribou frequently cross?
- Are more signs needed to show where wildlife or caribou cross the road?

Other Risks???

- Caribou health (Role of disease/parasites)
- Should there be compulsory inspection of boreal caribou harvested by all hunters?
- Do you have any other ideas of how else could we collect samples to get information about parasites and diseases in boreal caribou?



Other Risks???

- What can you tell us to help conserve boreal caribou in the NWT?

*We Need to Know What You Think
about Boreal Caribou Conservation in the
Dehcho!*



WWW.CWS-SCRS.GC.CA

Bird Research & Monitoring in the DehCho



17 Oct 2006

Page 1

Canada

CWS Work in the DehCho:

- Rusty Blackbird
- Trumpeter Swan
- Other Songbirds



3770011

Page 2

Canada

Rusty Blackbirds – Why?

- Species at Risk in Canada
- NWT population?
- Compare 2006 to 1970's

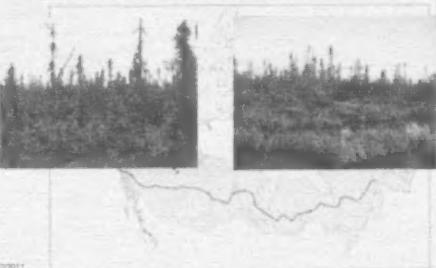


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Page 3

Canada

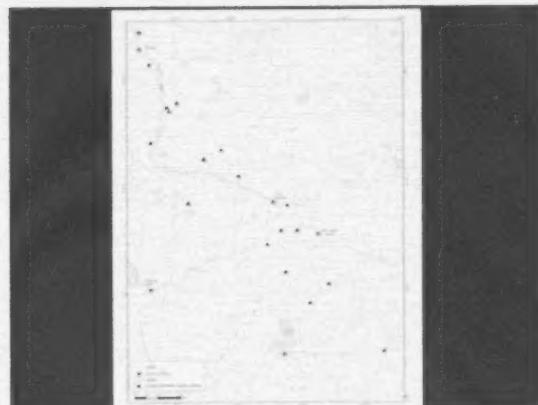
Rusty Blackbirds – Where?



3770011

Page 4

Canada



Rusty Blackbirds - Results

- 2006: Birds at 21/45 sites
- 1970's: Birds at 30/45 sites
- Small change from 1970's, but not 90% decline
- Where are the declines occurring?

3770011

Page 5

Canada

CWS Work in the DehCho:

- Rusty Blackbirds
- **Trumpeter Swans**
- Other Songbirds



37/2011
Environment Canada

Page 7

Canada

Trumpeter Swans - Why?

- International Trumpeter Swan Aerial Survey (every 5 years)
- Count families and number of young
- Tally age and social classes



37/2011
Environment Canada

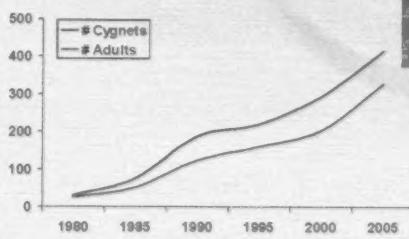
Page 8

Canada

Trumpeter Swans



Trumpeter Swans - Results



37/2011
Environment Canada

Page 10

Canada

CWS Work in the DehCho:

- Rusty Blackbirds
- Trumpeter Swans
- Other Songbirds



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Environment Canada

Page 11

Canada

Fort Liard – Seismic Study



37/2011
Environment Canada

Page 12

Canada

Long-term Monitoring: Fort Liard

- Every 2-5 years
- Environmental assessment
- Bird communities over time



3/7/2011

Page 13

Environment Canada

Breeding Bird Surveys

- 3 routes for ~12 years
- New route near Wrigley ?

www.pwrc.usgs.gov/BBS/



3/7/2011

Page 14

Environment Canada

NWT/NU Bird Checklist Survey

- Over 83 000 bird observations
- Data online next spring



www.pnr-rpn.ec.gc.ca/checklist

3/7/2011

Page 10

Environment Canada

Summary & Suggestions

Community participation



- What would you like to see CWS investigate in the future?

3/7/2011

Page 16

Environment Canada

www.cws-scf.ec.gc.ca

 **Thank you!**



MEP

Environment
Canada

Do pipelines change who eats songbirds or what songbirds eat?

Dr. Sean Bayne
Jeff Gill
Amy Darling
University of Alberta

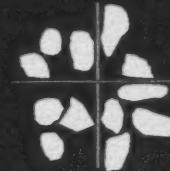
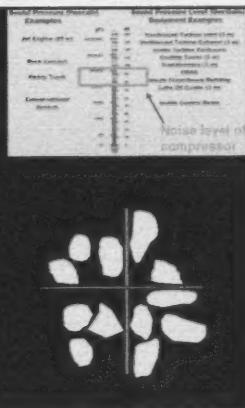
Themes of today's talk

- Outline how we think pipelines might alter habitat quality for songbirds
- Show preliminary results from Fort Simpson on how songbirds, bird predators, and bird prey interact on the existing pipeline
- Discuss what cumulative effects of linear features might mean for the future of forest birds
- Future research directions in Fort Simpson area



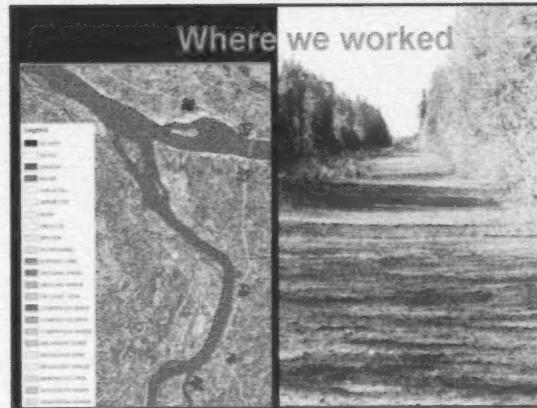
What we already know about pipelines & birds

- 1) Some birds have troubles mating due to noise created by compressor stations
- 2) Some birds avoid noisy areas as a result
- 3) Pipelines create a territorial FENCE effect



How else might pipelines affect birds?

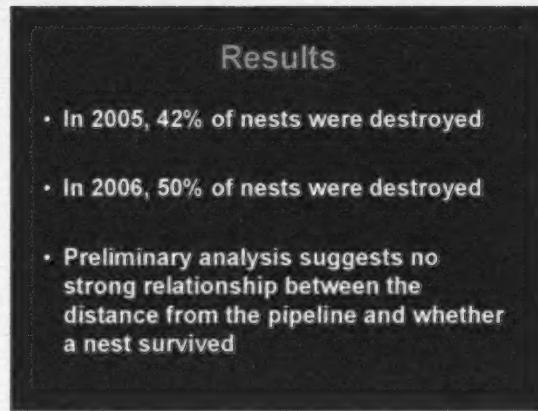
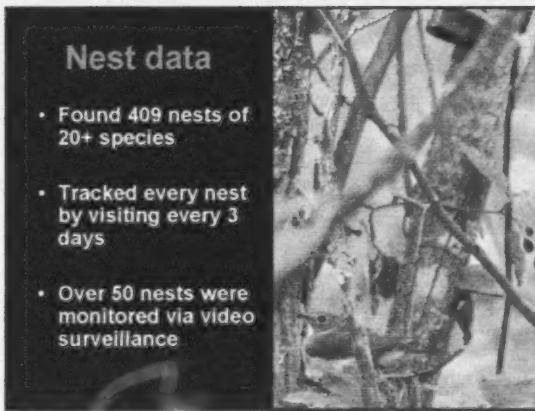
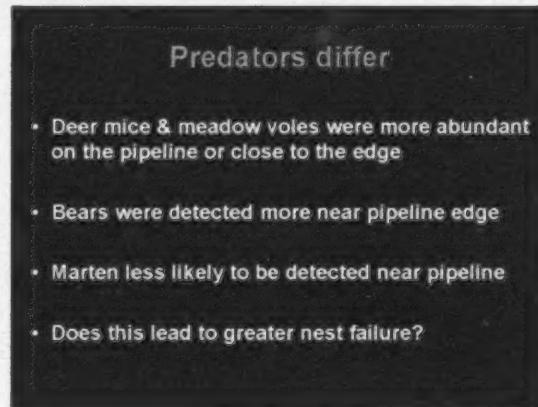
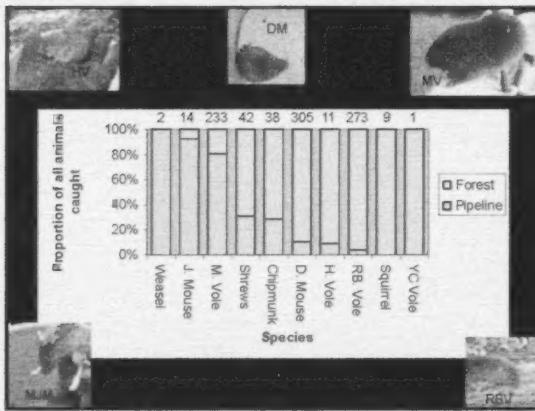
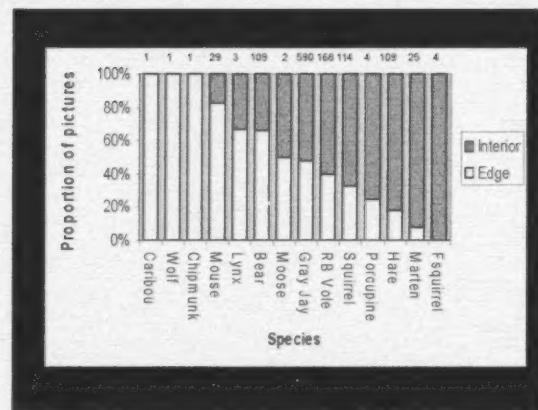
- 3) Could influence how predators use landscape & change nest predation rates
- 4) May alter temperature, wind & moisture in forest, affecting bird food
- 5) Effects may stretch into forest through "EDGE EFFECT"

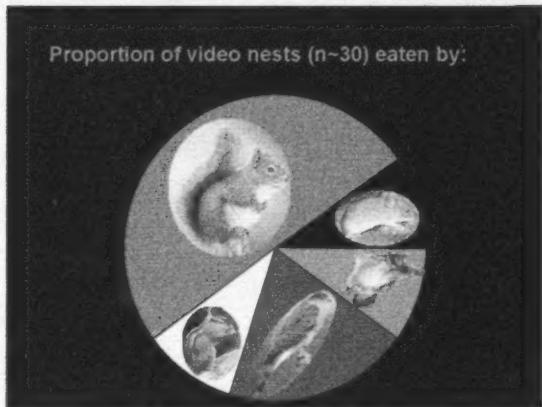


What we did

- Used remote cameras & trapping to estimate abundance & movement of predators
- Looked really hard to find nests of birds!
- Collected a lot of bugs so we can measure how the food of birds responds to edge environments

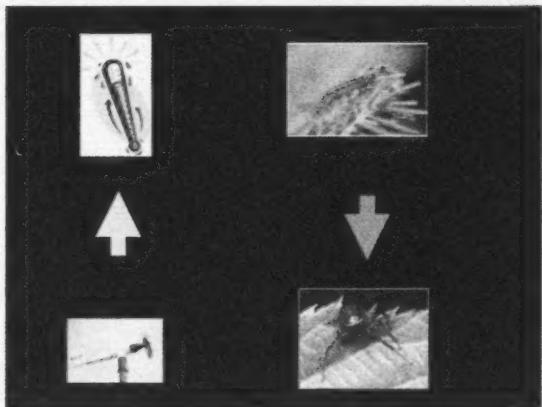


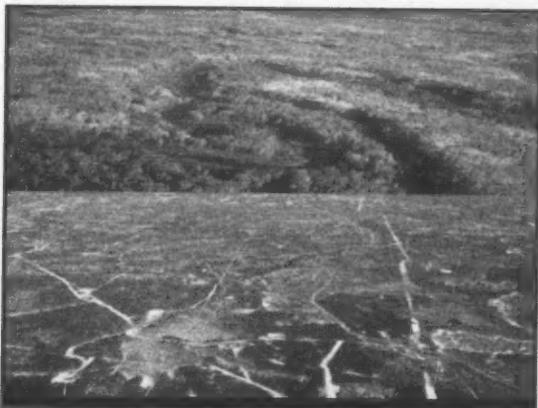




Nest success does not differ

- So does this mean that pipelines do not have an effect on birds?
- Microclimate may differ at edge
- Insect prey may react to microclimate
- Ability for birds to find food may differ
- Fence effect DOES OCCUR





Future directions

- Return for one more year of nest searching (very productive)
- Use the cameras to develop habitat selection functions for furbearers/bears/ other spp.?
- Use the cameras to assess baseline condition of mammals in area of potential pipeline development?
- Further evaluation of noise effects from compressor stations

Lidlii Kue First Nation

Project support

NSERC CRSPN

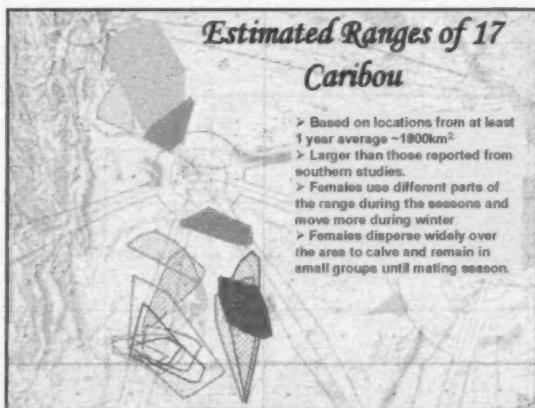
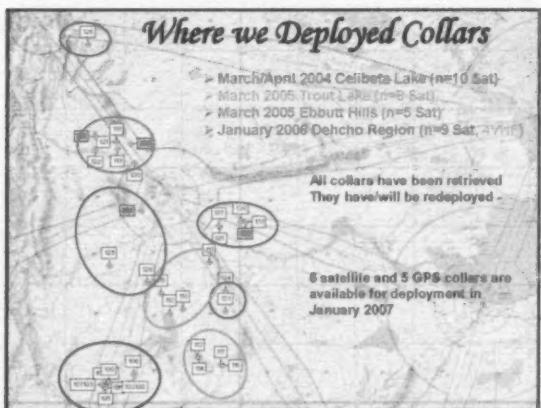
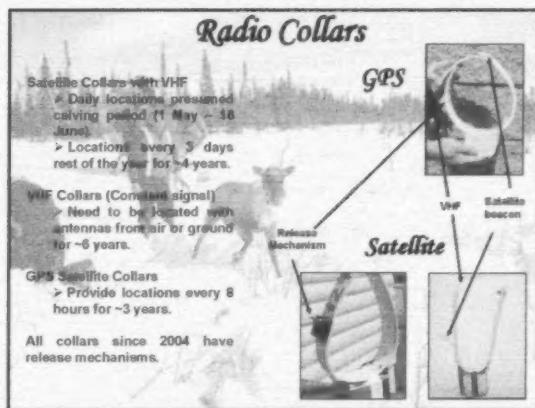
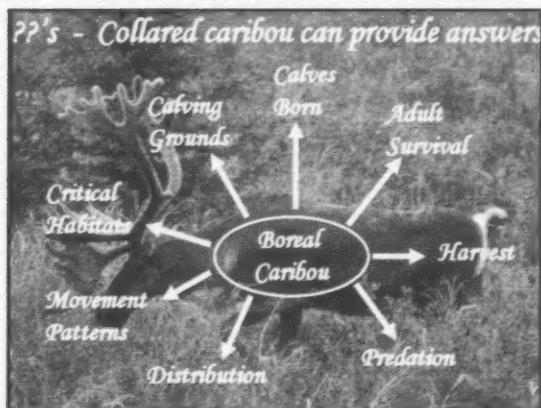
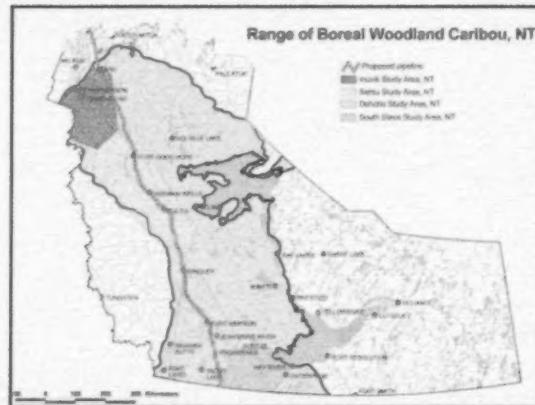
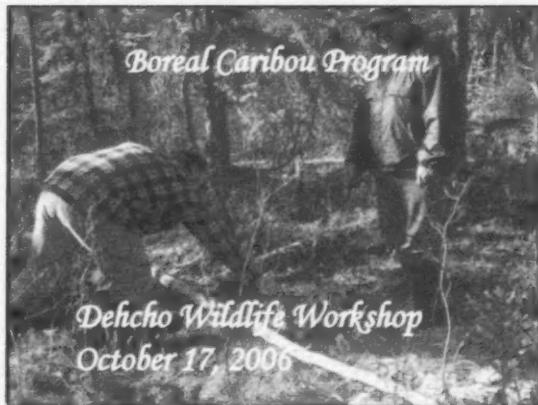
Environment Canada Environnement Canada

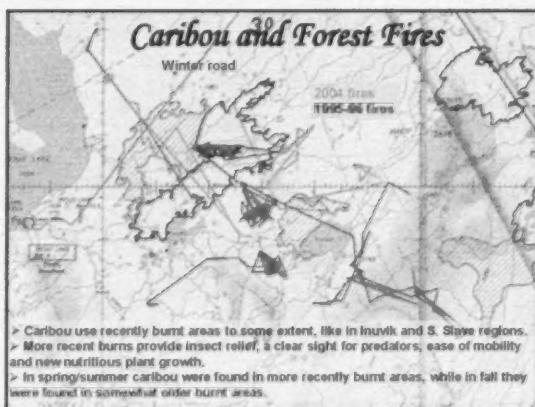
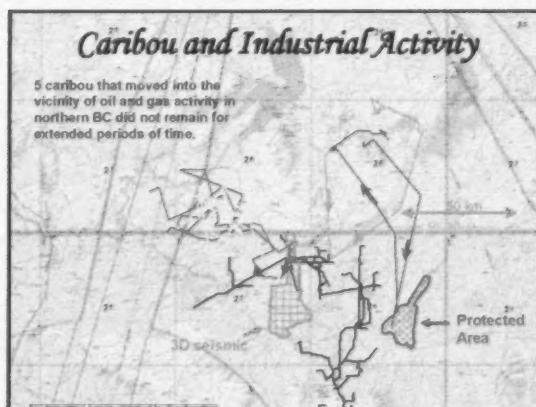
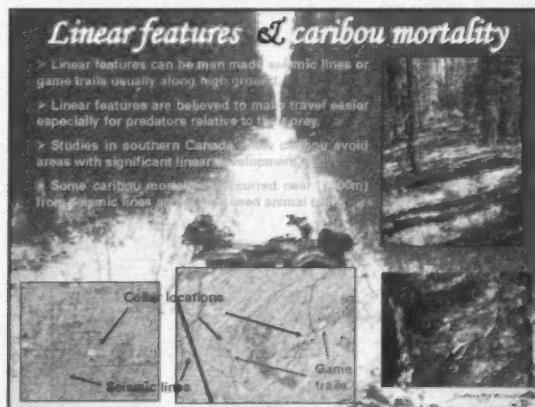
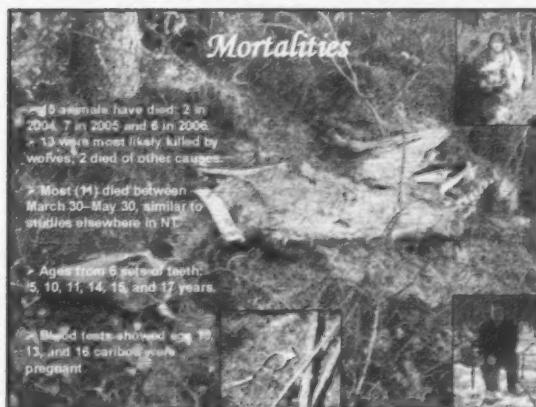
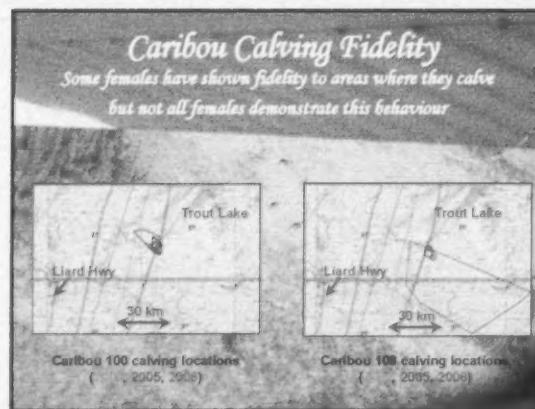
Canadian Circumpolar Institute

University of Alberta

ConocoPhillips Samson Security Solutions

Diversity





Diseases & Parasites

- Samples collected from most collared caribou: 22 blood and 41 fecal samples tested.
- Low incidence of diseases and parasites.
- No evidence of brucellosis.
- Low incidence of Ostertagia, a common parasite in caribou.
- Low incidence of Giardia.
- Historical gene flow in both a north-south and west-east directions.

DNA results

The map displays a geographic area with various locations marked by small squares. Two distinct clusters are highlighted: Cluster 1, which covers a large northern portion of the area and is described as mostly Inuvik/Sahtu; and Cluster 2, which covers a more southern and eastern portion and is described as mostly Fort Simpson.

What next?

- Continued monitoring of collared animals including:
 - Mapping caribou locations and movements.
 - Relocating animals in February, June, September
 - Retrieving collars from dead animals
- Deploying 11 additional collars to increase sample size?
 - Minimizing animal harassment by reducing search time
 - Collaring caribou in areas with collared caribou
 - Collaring caribou in key areas of interest to FN's
 - Collaring caribou away from communities

A black and white photograph showing four individuals standing in a snowy, forested landscape. They appear to be researchers or fieldworkers, possibly monitoring caribou activity in a natural habitat.

**Questions?
.... and thanks**

Chief Dennis Denecon (Samius K'e Dene Band) has been an avid proponent of this program since its inception. With the expanded program support has come from Chiefs Kiyata Norwegian and Stanley Sanguan and President Marie Lafferty of Lheidli T'enneh First Nation, Jean Marie River First Nation, and Fort Simpson Métis, respectively. We thank Jones Minoza, Edward Cholo, Steven Cli, Peter Cornelle, David Jumbo, Edward Jumbo, Tony Jumbo, Victor Jumbo, Ronnie Kotches, Jonas Lafferty, Andrew Lomen, Raymond Minoza, and Jonas Sanguan for their assistance with various aspects of the program.

Dehcho Moose Program

(Background photo of two moose in a field)

Dehcho Wildlife Workshop
October 17th, 2006

(Background photo of two moose in a field)

Objectives

- Monitor General Animal Health and Condition
- Document Disease, Parasites, and Contaminants
- Monitor Animal Density and Calf Production



Where Moose Samples Came From

Map showing locations of moose harvests in the Dehcho region, including Ft. Simpson, Jean Marie River, Nahanni Butte, and Ft. Liard. Red circles indicate areas where samples were collected.

- Program began January 2005.
- Received 37 samples to date.
- Most First Nations have been participating (LKFN, JMRFN, NBDB, ADKB, PKFN).
- ENR actively encourages First Nation members to provide moose samples.
- ENR reimburses harvesters \$50 for each set of samples.
- Red circles indicate areas where we would like to get samples from.
- Sample kits have been provided to Band and Métis offices in the Region and are available at the ENR office in Fort Simpson.

What Samples Tell Us

A sample collection testAMENT is an indicator of animal condition

- Kidney and its fat weight is an indicator of animal condition
- Kidney and liver provide levels of heavy metal content
- Feces provides incidence of disease and parasites

To date harvested animals have generally:

- been in good condition for the time of year they were harvested
- low incidence of diseases and common moose parasites

It would be nice to increase the number of samples we have from throughout the Dehcho

Winter Ticks in Moose

Hair Loss Creates "Ghost Moose"

Ticks are:

- small parasites that live on an animal's skin and suck blood
- arrows, oval shaped with 8 legs and tank spout-like mouth parts
- found on the neck, shoulder, and back (sometimes the stomach)
- found over the entire body in severe cases

Moose:

- can carry thousands of ticks
- ticks can penetrate and through-blood tissue and skin irritation
- extremely loss hair over parts of their body with high tick loads
- moose is not affected by ticks and is unlikely to contract disease

Have you seen moose looking like this?

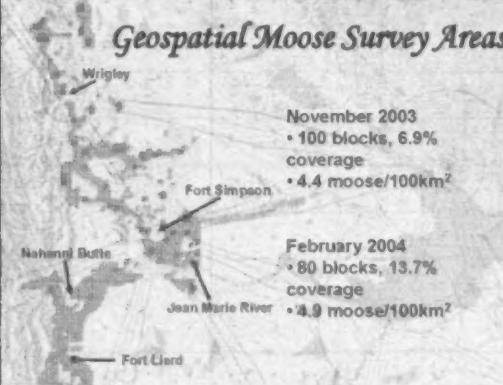
Common Diseases in Moose



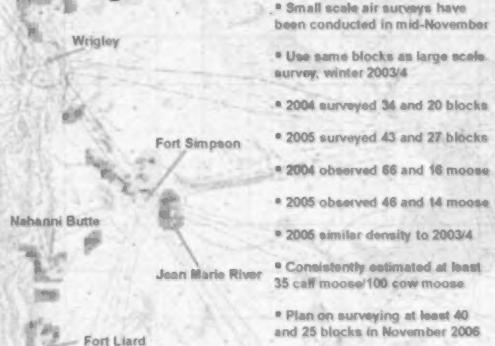
- Warts are caused by viruses, spread by direct contact, have little effect on body condition and usually occur in young animals.
- Meat is safe to eat; trim the hide of parts containing warts.
- Tapeworm cysts are often found in the liver and muscle tissue of moose; cooking kills the parasite which can be removed during butchering, but, DO NOT FEED RAW INFECTED PARTS TO DOGS.

*ENR publishes a Field Guide of wildlife diseases/parasites.

Geospatial Moose Survey Areas



Population Characteristics



Stable Moose Populations?

- In 2003/04 density estimates for moose in the Dehcho were 4.4 and 4.3 moose/100km².
- Density estimates based upon smaller sampling areas ranged from 2.4-7.5 moose/100km² in 2004 and 2.1-4.8 moose/100km² in 2005.
- In November 2003 we estimated the calf/cow ratio's of 32:1.
- Estimated cow/calf ratios for both November 2004 and 2005 was 50:0.
- Surveys occur after major fall moose harvest which reduces local density and may inflate cow/calf ratios. Accurate harvest data would be required to assess this.
- The number of females seen was lower in the 2 smaller surveys which could inflate cow/calf ratios but we continue to see females with twins.
- Local harvesters continue to have success harvesting moose.

Harvest Information?

(Inset photo shows a moose being harvested.)

Not knowing how many moose are harvested each year remains a key piece of information needed to properly assess population sustainability.

(Inset photo shows a moose being harvested.)

We would like to thank all harvesters who have participated in our harvest sampling program thus far.

Mahsi

• Steven G. Jones Antaine, Peter Cornelius, Frank Tsetso, George Tsetso, Peter Cazon Jr., Peter Cazon Sr., Loyell Letcher, Troy Ruttie, James Mouse, Roy Mouse and Chicky Chola from the Liidli Kue First Nations.

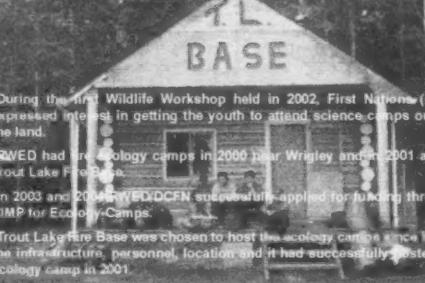
• Raymond Vital, Steven Vital, Darrel Betsaka and Francis Betsaka from the Nahanni Butte Dene Band.

• Ernest Timbre, Ernie Timbre and Elvin Lemon from the Acho Dene Koe Band

• Angus Sanguez, Stanley Sanguez and Isidore Simon from the Jean Marie River First Nation.

• Wes Pellsissey and Gabe Hardisty from the Pehdzeh Ki First Nations.

Dehcho Youth Ecology Camps



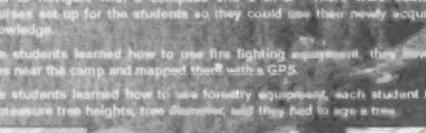
- During the first Wildlife Workshop held in 2002, First Nations (FN's) expressed interest in getting the youth to attend science camps out on the land.
- RWED had fire ecology camps in 2000 near Wrigley and in 2001 at the Trout Lake Fire Base.
- In 2003 and 2004 RWED/DCFN successfully applied for funding through CIMP for Ecology Camps.
- Trout Lake Fire Base was chosen to host the ecology camp because it had the infrastructure, personnel, location and it had successfully hosted an ecology camp in 2001.
- RWED, DCFN representatives were at the camp for the duration of the camp, the courses were 50/50 science and traditional knowledge (TEK).

Scientific Knowledge

The students learned how to read coordinates on a map, they learned how to navigate with a compass and a GPS. There were obstacle courses set up for the students so they could use their newly acquired knowledge.

The students learned how to use fire lighting equipment, they knew to fires near the camp and mapped them with a GPS.

The students learned how to use forestry equipment, each student had to measure tree heights, tree diameter, and they had to age a tree.



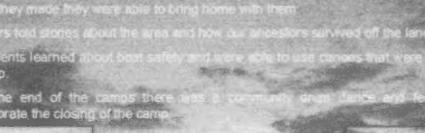
Traditional Knowledge

The students learned how to traditionally prepare fish, ducks and rabbits. They learned how to set fish nets and rabbit snares. Students picked berries and the dry fish they made were able to bring home with them.

Elders told stories about the area and how our ancestors survived off the land.

Students learned about boat safety and were able to use canoes that were at the camp.

At the end of the camps there was a community drum dance and feast to celebrate the closing of the camp.

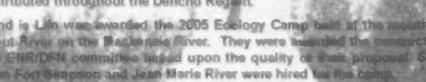


2005 Trout River Ecology Camp

During the 2004 Wildlife Workshop held in October, First Nations requested that the Ecology Camp should be moved to different locations to ensure TEK from other communities is utilized and funding is distributed throughout the Dechcho Region.

Land is Life was awarded the 2005 Ecology Camp held at the mouth of Trout River on the Mackenzie River. They were awarded the contract by the ENR/DFT committee based upon the quality of their proposed Staff from Fort Simpson and Jean Marie River were hired for the camp.

Student questionnaires that were collected from past camps had a clear majority of them wanting more TEK during the ecology Camps.



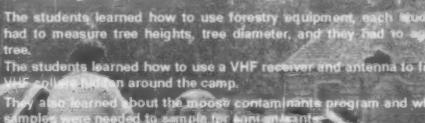
Scientific Knowledge

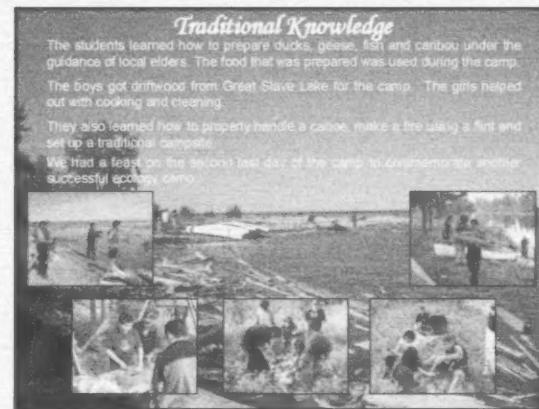
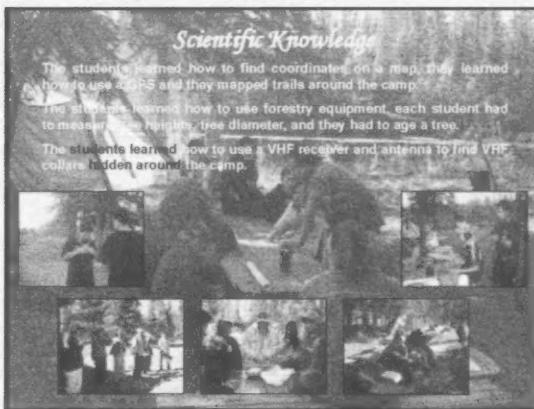
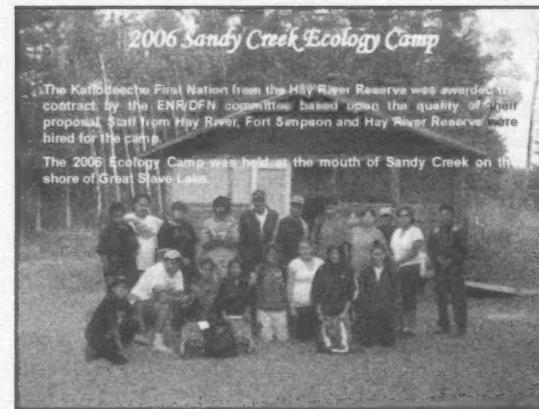
The students learned how to read coordinates on a map, they learned how to navigate with a GPS.

The students learned how to use forestry equipment, each student had to measure tree heights, tree diameter, and they had to saw a tree.

The students learned how to use a VHF receiver and antenna to find VHF collars hidden around the camp.

They also learned about the moose contaminants program and what samples were needed to sample for nutrients.





**Wildlife Research in
Nahⁿa Dehé**

Nahanni
National Park Reserve

Dehcho Wildlife Workshop
October 17&18, 2006

Douglas Tate
Conservation Biologist
Nahanni National Park Reserve

Parks Canada Parks Canada

OVERVIEW

- I. Why do Wildlife Research?
 - Parks Canada Mandate
 - Reasons for Research & Monitoring
- II. What Should We Study?
 - Developing Research Priorities for Nahanni
- III. What's New?
 - Highlights of Recent Wildlife Studies
- IV. Where do we go now?
 - Conclusions and Future Directions

Canada

I. Why do Wildlife Research?

- Parks Canada mandate - to protect representative samples of all of Canada's Natural Regions
- National System Plan - Nahanni National Park Reserve represents the Mackenzie Mountains region
- *Canada National Parks Act (2000)* clearly states that protection of **ecological integrity** is the first priority of National Parks

[Ecological Integrity can be defined as 'the health of the land']

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II. What should we study?

- January 2000 Workshop (DFN/PC) to determine the state of park ecology, research needs.
 - federal and territorial government representatives
 - scientific researchers
 - local community leaders
 - elders and active harvesters
- June 2000 - formation of Nahⁿa Dehé Consensus Team as part of Deh Cho I.M.A.:
 - 3 by Parks Canada
 - 2 members appointed by DCFN
 - 2 members appointed by Nahanni Butte
- Ecological Integrity Statement (2001)
- Interim Park Management Arrangement (2003)
- Park Management Plan (2003)

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Completing Canada's National Park System

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II. What should we study? (continued)

- Nahⁿa Dehé Consensus Team wrote the Park Management Plan, which:
 - affirms the importance of research, monitoring and traditional knowledge
 - recognizes that Dene are inseparable from the land, and traditional use will continue as a part of the park ecology
 - confirm the South Nahanni River watershed as the primary area of interest and influence in terms of park ecology
 - provides objectives and targets for park management, including wildlife research

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Greater Nahanni Ecosystem

Nahanni National Park Reserve
Canada

III. What's New? (Research Highlights)

- Bull Trout
- Listed as 'threatened' in US, 'sensitive' in AB, BC & YT, and 'may be at risk' in NWT (ENR, 2005)
- Southern populations of Bull Trout have declined due to industrial disturbance
- Initial work with Neil Mochnacz (UofM & DFO) in 2001 confirmed that Bull Trout, not Dolly Varden, occur in the South Nahanni River watershed
- Impacts to Bull Trout were raised as a concern in a recent Environmental Assessment report (2006) on proposed mining activities at Prairie Creek.



Canada

III. What's New? (Research Highlights)

Bull Trout spawning site was found on Funeral Creek, a tributary of Prairie Creek. Proposed access road to mine goes along this creek.

Field work in 2004-06, has found Bull Trout in many locations below Nałicho (Virginia Falls), including the Flat River, but no sites above the Falls.

Lake Trout occur both above and below the Falls, in lakes and in the main river.

Parts of the Nahanni were not glaciated in the last ice age, and trout from here may have colonized much of Canada.

Canada

III. What's New? (Research Highlights)

- Bats
- Prior to this study, the status of bats in NNPR (and the NWT) was not well known:
 - Only one common bat in NWT – Little Brown Bat.
 - Two other species recorded in NWT, but extremely rare.
- One park record of Northern Long-eared Bat; Kraus Hotsprings (1976).
- This study used mist-nets to capture bats and electronic recorders to collect their calls.



Canada

III. What's New? (Research Highlights)

Field crew worked in the dark, battled hordes of mosquitoes, stayed up nights.

Found seven species of bats in the park.

Several captures of Northern Long-eared Bat, plus Western Long-eared Bat, Long-legged Bat.

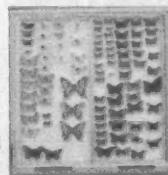
Sight sound records of Red Bat, Hoary Bat and Big Brown Bat.

Tripled the known bat species in the park, and more than doubled the NWT species list!

Canada

III. What's New? (Research Highlights)

- Butterflies
- Little was known about butterfly diversity in the Nahanni region; collaborated with an ENR project in 2005.
- Ross Layberry, Canadian butterfly expert, travelled through NNPR with park staff.
- Collections were made along South Nahanni River from Nałicho to Nahanni Butte, plus other locations in the vicinity.
- Forty-three (43) species were identified from the GNE.
- Two butterflies - Mormon Fritillary and Atlantis Fritillary - were new species for NWT.



Canada

III. What's New? (Research Highlights)

- Grizzly Bears
- 2002 - Project initiated in cooperation with Dr. John Weaver, Wildlife Conservation Society.
- Determine relative abundance and distribution of grizzly bears in and adjacent to park, identify important areas, movement patterns, potential areas of conflict.
- No capturing or handling of bears; barbed wire corral with scent lure - bears investigate but find no food.
- Most work in June, avoided visitor & hunting seasons.



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III. What's New? (Research Highlights)

Grizzly Bear Survey Grids 2002 – 2005

(Weaver 2006)



Map 5
Grizzly Bear Survey Grids
Northwest Territories

© Parks Canada

Canada

III. What's New? (Research Highlights)

- Hair samples caught on wire; additional hairs taken from rub trees. DNA analysis used to identify individual bears.
- Grizzly bears detected at 49% of scent stations; at least 103 different bears.
- 16 different grizzly bears in the Rabbitkettle Lake area; average of 7 in a year (5 – 8).
- Straight-line movements of up to 91 km observed.
- Model of bear density developed; estimated population of 665 grizzly bears in the Greater Nahanni Ecosystem.



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III. What's New? (Research Highlights)

Dall's Sheep

- Composition counts (ground-based) started on Tlogotsho Plateau in 2001. Similar to Sahu ENR methods.
- Contributed to parasite and genetic studies with ENR & U of Sask.
- 2003 was a good year; 53 sheep and ratio of 41 lambs per 100 ewes suggested good early survival rate. No count in 2004; poor weather in 2005.
- 88 sheep seen in 2006 (some double counts).



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III. What's New? (Research Highlights)

- Larger scale sheep range / occurrence assessment undertaken in cooperation with Dr. John Weaver (WCS).
- Surveys of Ram Plateau and Nahanni Plateau / Tundra Ridge areas. Review of previous sheep surveys & TK.
- Estimate of Dall's sheep population in GNE between 800 – 1200 animals.
- Most of the primary sheep ranges are outside of the current park area.



Map 6
Range of Dall's Sheep
Northwest Territories

© Parks Canada

Canada

III. What's New? (Research Highlights)

- Moose
- No moose surveys had occurred since 1980s.
- NNPR supports ENR moose surveys (Dehcho Region) by contributing extra funding and staff assistance (2003 -06)
- Planned moose surveys in Liard and Mackenzie valleys have been extended into South Nahanni River valley from Nahanni Butte up to Deadmen Valley



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III. What's New? (Research Highlights)

• Woodland Caribou



- Traditional knowledge of caribou migration on Flat and Caribou River valleys.

- 1995- Study started by NNPR in consultation with LKFN; cooperation with RWED (ENR) and Yukon government.
- Local traditional knowledge suggested South Nahanni herd was declining.
- Local TK, oral histories and outfitters and Yukon researchers surveyed: estimate of 2000 – 3000 caribou.

Canada

III. What's New? (Research Highlights)

- Caribou herd winters in park river valleys, summers in alpine NW of park.
- Very low calf:cow ratios suggest poor survival, herd may be declining.
- Census in 2001 saw only 781 caribou; population estimate of 940 – 1140 (GNWT 2002).
- Results agreed with local TK - the herd appears to be in decline.

Canada



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III. What's New? (Research Highlights)

- None of the primary calving or rutting grounds of the South Nahanni Herd are protected.



Canada

- Some caribou travel west to Coal River area, and south to LaBiche Range; again supports the local traditional knowledge.
- Caribou from the Redstone Herd enter the watershed in the north.
- Some winter range is in the park, but none of the calving or rutting areas are protected.

III. What's New? (Research Highlights)

• Other Wildlife

- Record sightings of other species including wolves, lynx, mountain goat, beaver, frog.
- Breeding bird and spring migration monitoring, recording observations on park shifts and patrols



Canada



Canada

- Periodic surveys for Trumpeter Swans and raptors (eagles, hawks & falcons)
- Occasional monitoring of rare species such as Upland Sandpiper, Black Tern, Western Toad

IV. Where do we go now? (continued)

- Nah[ा] Deh^é Consensus Team continues to be the cooperative management body for NNPR; wildlife research proposals are reviewed by the NDCT.
- NDCT currently consists of:

Wilson Dimsdale	Jonas Antoine
Ann Ronald	George Tsctso
Douglas Tate	Peter Marcellais
	George Betsaka
- Watershed Protection – Nah[ा] Deh^é K’edii
numerous resolutions from Nahanni Butte and Dehcho First Nations to protect lands, waters and wildlife of Nah[া] Deh^é.
- Nahanni Expansion Working Group studying wildlife, as well as mineral & energy potential, land features, culturally important sites, etc, to decide what to protect. Extensive community consultation ongoing.

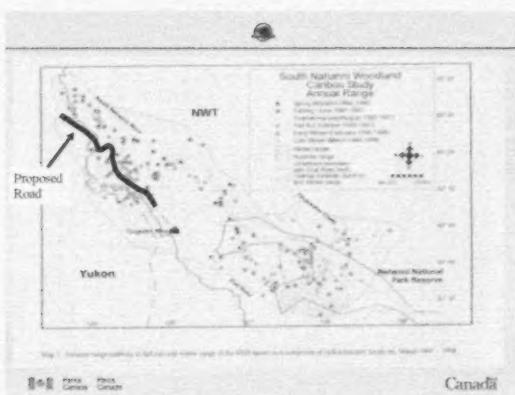
Canada

IV. Where do we go now?

- Ecological Integrity (health of the land) is good in Nah[া] Deh^é Nahanni National Park Reserve.
- Partnerships with DFN, ENR, local communities and other organizations has worked well; this will continue to be very important in future. We are pursuing ideas for a cooperative research centre.
- Research Priorities for the park are posted on the website; a more detailed Science Strategy for the park is planned.
- High Priority:** Caribou Status.
- Low population size; poor calf survival; no data on trends.
- Herds are hunted (traditional harvest, plus resident hunting, plus outfitter trophy hunting).
- New proposal for a mine and all-season road through the calving grounds; more impacts on a possibly declining herd.
- NNPR willing to be a funding partner in studies.

Canada

Canada



Mahsi Cho / Thank You

- Environment and Natural Resources (GNWT) & Dehcho First Nations
- Nahsi Dehé Consensus Team & NNPR Staff
- Yukon Renewable Resources
- Department of Fisheries and Oceans
- Environment Canada (Canadian Wildlife Service)
- Univ Manitoba, Univ Saskatchewan
- Wildlife Conservation Society
- Cori Lauten, CPAWS & MEC

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Parks
Canada Parks
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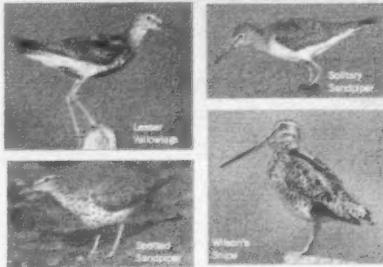
Shorebird Surveys in the Mackenzie Valley

Canadian Wildlife Service

Credence Wood
Vicky Johnston
October 17, 2006

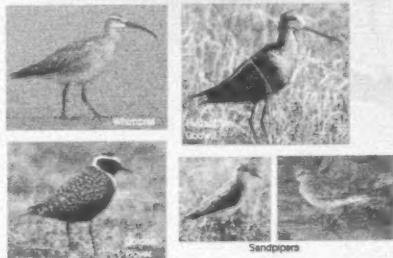
Canada

Breeders – Nest in the boreal forest



Canada

Migrants – Nest in the arctic/northern boreal forest



Canada

Why study shorebirds?



- populations of shorebird species are declining on migration counts
- little known about shorebirds in the boreal forest

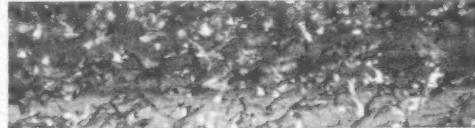
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CWS – Northern Conservation Division

Shorebird Conservation Strategy and Action Plan

Goal

- To maintain the diversity and abundance of shorebird species in the Northwest Territories and Nunavut



Canada

Objectives

- collect baseline data for the MGP environmental assessment process
- work towards a monitoring program for the boreal forest
- part of PRISM (Program for Regional and International Shorebird Monitoring)

Mackenzie Gas Project



Canada

Objectives

1. determine abundance and distribution of shorebird species breeding on the proposed pipeline corridor and along the Mackenzie River.
2. determine the level use of the proposed pipeline corridor and Mackenzie River as a spring migration route for shorebirds that breed in the Arctic.
3. identify location of shorebird 'hotspots' along the pipeline corridor and river.



Canada

Types of Surveys - Aerial

- surveyed 200m wide strip from helicopter 30m above ground traveling 80 km/h
- recorded birds and general habitat for each observation



Canada

Types of Surveys - Ground

- recorded birds and general habitat for each observation



Canada

When and Where

- May 19 – 23, 2006
- block surveys along proposed MGP pipeline route between Norman Wells and the Alberta border
- spaghetti surveys along Mackenzie River between Norman Wells and Fort Simpson



Results - Abundance

Pipeline

- 259 shorebirds counted over 750 km of surveys
- Density = $1.73 / \text{km}^2$

River

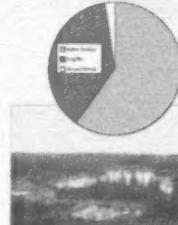
- 225 shorebirds counted over 198 km of surveys
- Density = $5.68 / \text{km}^2$



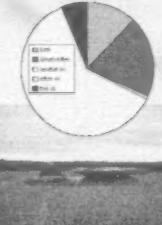
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Results - Distribution by Habitat

Pipeline



River



Canada

Results

Migration

- migrants were only identified along the river and the river had higher densities of shorebirds ($5.68/\text{km}^2$ vs $1.73/\text{km}^2$)
- pipeline corridor is not used by migrants
- river is a migration corridor but importance compared to other migration corridors is as of yet unknown

Hotspots

- difficult to determine with our surveys after 1 year
- appear to be thinly, but evenly dispersed through valley where open, wet habitat exists



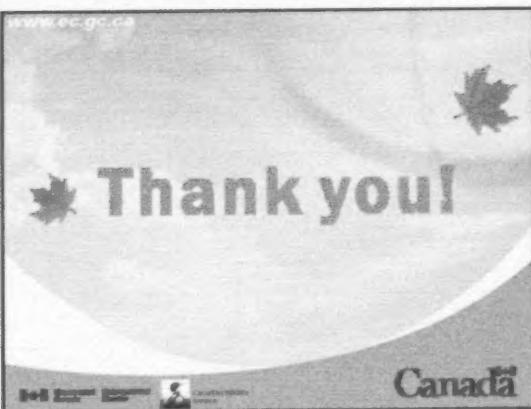
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Future Research

- funding for 2 more years ??
- longer, intensive surveys at specific locations with emphasis on biology of species, as well as counts, for boreal breeding shorebirds
- establish sites along river to monitor spring and fall migrations



Canada



Nahanni Wood Bison Program

- Sex and Age Classification Surveys
- Biological Sampling
 - > Harvested Animals
 - > Vehicle Collisions

Dehcho Wildlife Workshop
October 17, 2006

Sex and Age Classification Surveys

- > Surveys conducted annually starting in 2002.
- > Surveys are 2-3 days long and cover the Liard and South Nahanni Rivers, generally north from Sandy Creek to Nahanni Park and Blackstone River.
- > Surveys are conducted in mid-July when bison frequent the sandbars and shoreline avoiding heat and insects.
- > Survey routes are tracked using GPS; observations > 2000+ waypoints.

Bison Horn Morphology & Classification

Bison Swimming in Liard

Field Classification Criteria

- A: Calves (< 6 Mo)
- Y: Yearlings (1-1.5 Y)
- C: Cows (2+ Y)
- B1: Juvenile M (2-3 Y)
- B2: Subadult M (4-5 Y)
- B3: Adult M (6+ Y)

Classification Survey Results

	2002	2003	2004	2005	2006
# bison classified	131*	154	137	138	167
# calves/100 females	20	58	42	28	47
# yearlings/100 females	17	10	31	26	25
# mature males/100 females	48	50	40	50	72

* Included group of 42 classified at Beaver Camp prior to survey

We consistently observe >130 animals/survey.
 Calf production shows great annual variation.
 Overwinter survival of calves has increased.
 Population stable, likely increasing slowly.

Biological Sampling

- > ENR tries to collect a variety of biological samples from harvested and/or dead animals depending upon the condition of the carcass.
- > Blood and lymph nodes are important for disease screening. All submitted samples have come back negative for brucellosis and tuberculosis and anthrax has never been detected in the Nahanni bison range.
- > We also collect teeth for aging; stomach contents and/or poop for diet, disease, and parasites; long bones for measuring marrow fat; kidney and liver for e.g. selenium levels.

Bison Diet

- > Similar to Mackenzie bison - a lot of crowfoot grass, and willow.
- > Different from Mackenzie bison is scouring rush (horsetail).
- > Scouring rush (*Equisetum*) has silica which wears down teeth.
- > Reduces life expectancy relative to Mackenzie population.

Front teeth
10-yr male

Motor Vehicle Collisions

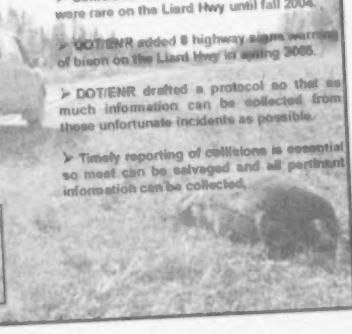


➤ Collisions between vehicles and bison were rare on the Liard Hwy until fall 2004.

➤ DOT/ENR added 8 highway signs warning of bison on the Liard Hwy in spring 2005.

➤ DOT/ENR drafted a protocol so that as much information can be collected from those unfortunate incidents as possible.

➤ Timely reporting of collisions is essential so meat can be salvaged and all pertinent information can be collected.



Locations of new signs on Liard Hwy, spring 2005

Collision locations Sept '04 - Jan '05



Bison in the Community



➤ Local activity in the community occurs during winter, prior to the rut.

➤ Local ENR office fields and investigates complaints and responds where appropriate.

➤ The appropriateness of the response made is an ongoing issue.

Thanks

We thank the following for their active participation in the bison program:
 Frank Kotches, Michael Bassie, Isadore Lomen, Earl Hope, Peter Bertrand,
 Ernest Timbre, Ernie and Angus McLeod from the Acho Dene Koe Band,
 and Francis Betska, Ernie Isaih, Sam Ekota, George Tsotsa, Steve and
 Raymond Vital from the Nahanni Butte Dene Band.



Planning for Boreal Caribou at the Landscape Level

What does the landscape in the Dehcho need to look like for the persistence of boreal caribou??

We do not know with any certainty

The answer to this question is needed for:

- Dehcho landuse planning
- Implementing the National Boreal Caribou Recovery Strategy
- Implementing the NWT Action Plan
- Assessing the effectiveness of protected areas proposals
- Planning and assessing oil and gas projects
- Planning and assessing timber harvesting projects
- Identifying best management practices for oil/gas/ forestry
- Harvest Management

There is a lot of knowledge available that can help us answer that question, for example:

- Knowledge of people who live and hunt on the land
- Knowledge of ENR staff who have been doing studies in the Dehcho
- Knowledge of ENR staff who have been doing studies elsewhere in the NT
- Knowledge of aboriginal people in northern AB, BC, and SK
- Knowledge of people who have studied boreal caribou in AB, BC, and SK where the landscape has been changed dramatically by development
- Knowledge of people in the oil and gas industry who know how activities can be conducted
- Knowledge of people in forestry who know how forests change over time, understanding the role of fire and how timber harvesting is done

How do we bring this knowledge together?

During the Paramount Environmental Assessment there was a proposal to create a boreal caribou working group.

Is there interest in forming a group to deal with landscape planning? Should this be an action item coming from this workshop?

There are opportunities to seek funding for such a group through Habitat Stewardship Project, Species at Risk, Oil & Gas groups etc...